

MICROTEACHING RESEARCH PROJECT

(Financed by the NCERT)

EFFECT OF MICROTEACHING
on
ACHING SELF-CONCEPT AND TEACHING COMPETENCE
of
STUDENT-TEACHERS

Director
ANAND

With Comments From
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FOREWORD

Several forces are at pains to-day to reshape the direction of education. One of them is represented in education's post-Sputnik concern with process. Since Bruner's now classic thesis that 'any subject can be taught effectively in some intellectually honest form to any child at any stage of development', the teaching profession has witnessed the development, refinement, dissemination and assimilation of numerous ideas and practices, incorporating process as content.

Another force centers on education's increasing attention to the affect (feeling) in the classroom to humanize education and individualize instruction. To be a teacher is to be a creative artist in the medium of human lives, to be able to quicken into action the intellectual life of the child. It is truism to say that classroom teaching effectiveness depends on the quality of the teacher, which in turn, depends to a large extent on the quality of the teacher education programme.

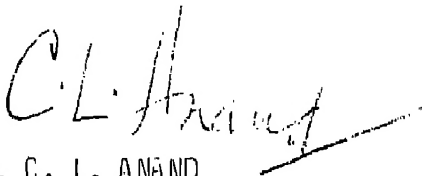
The skill-based approach to learning to teach has been found useful for developing teaching competence in student-teachers, and to restructure, reconstruct and revitalize the existing system of teacher education. The experimentation has now made it possible to make teaching fairly scientific, by applying 'microcriteria approach' to teacher training. Innovations such as microteaching thus constitute yet another force in this direction.

The document of the National Council for Teacher Education (NCTE) entitled "Teacher Education Curriculum: A Frame Work" has expressed the consensus of opinion on the need for change in teacher

training programmes at all levels. Efforts are being made to re-structure teacher education on the lines recommended in the framework. One of the recommendations of the document pertains to the provision of a 'Core Training Programme Package'. Once the core skills are mastered individually, they can be integrated through guided training. This creates the take-off stage for the student-teacher to face the live classroom situation with more competence. It was in this background, that this project was undertaken to facilitate a smooth change over to modern teacher education. I must express my gratitude to the National Council of Educational Research and Training, New Delhi, for sponsoring the project.

I am glad to see that this project, which started only in April 1980 has been successfully completed within the scheduled period of eight months. But for the sustained effort put forth by my colleague, Dr. Mathew George, it would not have been possible to bring out this publication in this form in such a short time. This project report highlights the quintessence of the whole experiment and I hope it will be interesting, informative and educative to all those who are interested in teacher education and research in the area of microteaching.

SHILLONG,
The 15th December '80.


Dr. C. L. ANAND
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This Project on microteaching grew out of our dissatisfaction with traditional teacher training and also out of our interest in affective education and the implications it holds for positively affecting teacher education. For invaluable assistance and support, we thank:

The National Council of Educational Research and Training, New Delhi who sponsored this project;

The twenty student-teachers (names given in Appendix C) of Post Graduate Training College, Shillong with whom we worked;

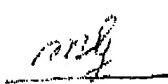
Mother Anne, Principal, St. Mary's College, Shillong and Mrs. Judy Shullai, Principal, Post Graduate Training College, Shillong and their colleagues, for their cooperation and help;

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Many others, especially the names of the Principals of the Secondary Schools in Shillong, could also be mentioned. I hope and trust that they will understand and appreciate their omission as nothing more than an investigator's quest for brevity.


Dr. Mathew George
Principal Investigator

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ABBREVIATIONS

ATAI	...	Ahluwalia's Teacher Attitude Inventory
BGTC	...	Boroda General Teaching Competence
FIACS	...	Flanders Interaction Analysis Category System
GTC	...	General Teaching Competence
ITCS	...	Indore Teaching Competence Scale
NCERT	...	National Council of Educational Research and Training.
NCTE	...	National Council for Teacher Education
NEHU	...	North Eastern Hill University
SCERT	...	State Council of Educational Research and Training.
SIE	...	State Institute of Education
TSCS	...	Teaching Self-Concept Scale

THE PROBLEM

1.1 Theoretical Context

Most teacher education programmes contain three basic components: course work, observation in the schools and student teaching. The rationale for such a programme is fairly obvious. Courses attempt to give student teachers the prerequisite knowledge of facts and principles necessary for teaching; observations allow them to relate this knowledge to real situations; and student teaching permits them to gain experience in applying the newly acquired professional knowledge. Such a traditional programme is insufficient because it defines much of the preparation for teaching as passive instead of active, unrealistic instead of realistic and general instead of specific.

The major weaknesses of the existing system of professional education of teachers have been repeatedly pointed out by the University Education Commission (1949), the Secondary Education Commission (1953), the International Team on Teachers and Curricula in Secondary Schools (1954), and also have been highlighted by the Education Commission (1964-66). The detailed report submitted by the various visiting teams of the working groups set up by the National Council for Teacher Education (NCTE), after having screened through extensive data backed up by on-the-spot observations of sampled teacher training institutions, have reaffirmed the above mentioned observations (1975). These Commissions have recommended that student teaching aspect of teacher preparation programme in India needs to be replaced by trying out new alternatives on empirical basis as it is the pivot of teacher preparation programme.

In the light of the recommendations, efforts at improving student teaching done are sporadic, unplanned and devoid of empirical evidence. They do not touch the most important aspect, namely, the development of teaching skills. Researches done at the national level in this area reveal that: (i) emphasis is on telling rather than doing (Palsane and Ghanchi, 1967; Marr et al., 1969); (ii) supervision of practice teaching is haphazard and indiscriminating (Upasani, 1966; Palsane and Ghanchi, 1967; Joseph, 1967; Marr et al., 1969;

Srivastava, 1970; Saikia, 1971; Mehrotra, 1974; and Singh, 1976; (iii) Feedback is global and not in specific behavioural terms (Pacsi, 1977); (iv) There is no uniformity in the number of lessons to be practised (Sharma, 1966; Upasani, 1966; Mallaya, 1968; Palsane and Ghoshal, 1967; Singh, 1976); (v) Student teaching fulfills only the official requirements and nothing more in terms of teaching skills (NCERT, 1969); and (vi) Student teachers do not have favourable attitude towards the student teaching programme (Verma, 1968; Srivastava, 1970; Saikia, 1971; and Kaul, 1972).

The most important reason for the above state of affairs is that there is no empirical basis for teacher education programmes. To bridge the gap between theory and practice, it was felt to try out new techniques whose effectiveness has been established in the West. One such technique is skill-based microteaching technique. By its very nature, it encourages a combination of theory and practice, research and training, innovation and implementation. This technique was first introduced at Stanford University by Allen and Ryan (1969). It has been proved as one of the best methods for training teachers in teacher preparation programme abroad (Allen and Ryan, 1969; Mc Intyre, 1970; McAleese and Unwin, 1971; Young et al, 1971; and many others).

1.2 Skill-based Approach to Learning to Teach

Looking at various definitions of teaching it is observed that teaching itself is a complex activity and therefore training for teaching becomes more complex. With a view to reducing the complexity of this process, Gage (1963) has suggested 'microcriteria' approach to teacher effectiveness. When it is applied to teaching, one analyses teaching into a number of teaching acts or behaviours of the teacher. These teaching activities, both verbal and nonverbal processes producing expert, rapid and accurate performance directed to promote learning in the pupils, are called teaching skills. The teaching skills can be defined as those specific teaching acts/behaviours the teacher uses, which are observable, demonstrable, measurable, and which can be developed through training. These teaching acts/behaviours are called into play by teachers to attain certain predetermined instructional

objectives. Each teaching skill is a subset of teaching. In other words, teaching constitutes a number of interrelated teaching skills which occur at pre-instructional, instructional and post instructional stages.

Explaining the complexity of learning how to teach, Brown (1975) has given analogies of learning to fly jumbo jets and to transplant heart which require a large number of skills. No flying school or medical faculty expects its trainees to perform the ultimate tasks of flying jets or transplanting hearts unless basic skills are mastered. In the same way, teaching also has its repertoire of skills. If these cannot be identified and taught many teacher educators are guilty of a huge confidence trick (Passi, 1976). On the basis of different teaching tasks identified, the following skills may be called Basic/Core Teaching skills: (i) skill of stimulus variation; (ii) skill of introducing a lesson; (iii) skill of explaining; (iv) skill of illustrating with examples; (v) skill of probing questioning; (vi) skill of reinforcement; (vii) skill of using blackboard; (viii) skill of achieving closure; and (ix) skill of recognizing attending behaviour (Joshi, 1980).

The 'Teacher Education Curriculum - A Framework' approved by the NCTE expresses the consensus of opinion on the need for change in teacher training courses at all different levels. Efforts are being made to develop teacher training programmes on the lines recommended in the framework. One of the significant recommendations of the Framework pertains to the provision of a 'Core Training Programme Package' (CTPP) as a part of Area 'C' dealing with Content-Cum-Methodology courses. This is a new area of work aiming at the development of such basic skills which are needed by all the teachers to be successful in their work. In fact the CTPP is meant to develop the student-teachers as skilled artisans in the art of teaching. The provision of this package provides both an opportunity and a challenge to overcome the weakness of the existing training courses. The opportunity is to provide repeated practice for the acquisition of basic/core skills in teaching in a simplified teaching situation. Once the core teaching

skills are mastered individually, these are integrated into the composite teaching skill through guided training and finally exposure to real, live classroom teaching situation.

1.3 What Microteaching Is

Microteaching is a training concept that can be applied at various preservice and in-service stages in the professional development of teachers. It is defined as 'a system of controlled practice that makes it possible to concentrate on specific teaching behaviour and to practise teaching under controlled conditions' (Allen and Eve, 1968). Microteaching provides student-teacher with a practice setting for instruction in which the normal complexities of the classroom are reduced and in which they receive a great deal of feedback on his performance in individual setting. To minimize the complexities of the normal teaching encounter, one skill is practised at a time, with small number of pupils and short duration of time and content is reduced to single, simple concept.

Fundamentally microteaching is an idea, at the core of which lie five essential propositions. First, microteaching is real teaching. Although the teaching situation is a constructed one in the sense that teacher and students work together in a practice situation, nevertheless, bonafide teaching does take place. Second, microteaching lessens the complexities of normal classroom teaching, Class size, scope of content, and time are all reduced. Third, microteaching focuses on training for the accomplishment of specific tasks. Fourth, microteaching allows for the increased control of practice. Fifth, microteaching greatly expands the feedback dimension in teaching. Skinnerian theory of 'shaping' or 'successive approximations' in acquiring the new pattern of behaviour seems to have been applied to teach-feedback-replan-reteach-refeedback pattern in the microteaching.

1.4 Significance of Simulated Situations

The organisation of the microteaching practice sessions for student-teachers has to be carefully planned. Practice is, of course, a prerequisite for many learning activities including learning to

teach. Practice in the normal classroom by a student-teacher brings with it certain constraints. For one thing, pupils are there to be skillfully taught, not practised on. It is common experience that most student teachers feel shy in facing full class sessions at least in the beginning. They often feel embarrassed when pupils in the classroom take advantage of the inexperience of the student-teacher and create problems deliberately. The general nature of comments offered by teacher-educators on such practice sessions, hardly help in developing skills on the part of student-teachers. If microteaching is organised in simulated situations, it provides a safe practice ground. Safety is for the intending teachers as well as for pupils. The problems of discipline and tension are lesser for the student teacher. Pupils also need not suffer like guinea pigs under the novice teacher. Besides, many of the administrative problems in arranging practice teaching are reduced as microteaching can be implemented in simulated situations in the training institutions where student teachers act as pupils.

Other professions have built into their training programme opportunities for safe practice. The law student has his moot court. The medical student has his cadaver and his rounds in the clinic. The aircraft pilot has his link trainer. The actor has his closely supervised rehearsals. Likewise, before initiating the intending teachers to actual classroom teaching, they may be put to practise core teaching skills in simulated situations till such time as a minimum competence and confidence is achieved by them. Simulation, in this situation, would imply dividing student teachers in small groups where one student-teacher, by turn, would take the position of a teacher and others would act as pupils to allow practice on use of specific skills. The performance of each student-teacher would be commented upon by the group in order to facilitate the student-teacher to understand his weakness. Taking note of these comments, the student teacher would replan his performance and keep on repeating this cycle till a satisfactory level of performance is reached. Thus microteaching is designed to provide student-teachers with a safe setting for the acquisition of the techniques and skills of their profession. It can also

be used to improve classroom performance of in-service teachers. If properly conducted, it will help individualize instruction, enhance self-image and improve sensitivity of the participants towards teaching skills. It is an innovative technique which puts the audience on the stage.

1.5 Integration of Teaching Skills

The mastery of core teaching skills is the means to reach the goal of integrating them to facilitate teaching effectiveness. Integration of the teaching skills refers to the process through which this ability is acquired by a student teacher. Integration can be defined as the process through which a student-teacher acquires the ability to perceive with precision the teaching situation in its entirety, select and organise the component teaching strategy in the desired sequence to form effective patterns for realising the specified instructional objectives and use them with ease and fluency. There are a number of integration strategies of teaching skills. Summative strategy, additive strategy, diode strategy and subsumption strategy are some of them. In microteaching the integration of teaching skills is emphasized. The quality of teaching depends on the degree of harmony of integration of independent teaching skills suitable to the various classroom situations and subject requirements.

1.6 Review of Relevant Literature

1.6.1 Studies on Microteaching and Teaching Self-concept

The selfconcept is now regarded as being theoretically and empirically important for personality and behaviour. It is essential for the stability of the personality too. Once it has emerged, it is present either as figure or ground in all behaviour. The self is the product of social interaction and includes all those learnt aspects that the person regards as 'me' or 'mine'. Selfconcept has been defined as the most personal, meanings a person attributes to the self (Ramkumar, 1971). Teaching selfconcept actually emerges in a person acting in the role of teaching as a result of interactive

instruction in the classroom. It includes the totality of attitudes and assessments a teacher has about the person, process and product aspects of one's own teaching self namely teacher personality, classroom teaching process and teaching effectiveness respectively.

Although there may be difficulty in changing the self, evidence suggests that it can be changed by controlled experience (Staines, 1970). The teaching selfconcept of student teacher is in a state of flux and in the process of evolution during the training period, which helps him to discover his teaching self. Every student teacher attempts during the training period to protect and enhance his own self. This constitutes the powerful motive behind the teaching behaviour. The classroom behaviour in a particular context, to a certain extent, is determined by one's perception of oneself and of one's situation. A trainee who carries an accurate concept of his teaching self, can improve it through microteaching in simulated situation where positive feedback is given to reinforce the desirable behaviour and performance of skills. There are mainly three types of teaching self in student teachers; the ideal teaching self, the perceived teaching self and the real teaching self. The ideal teaching self is the teaching self an intending teacher wishes and attempts to have. The perceived teaching self is the self he perceives he has and the real teaching self is the teaching self, his significant others see in him. Microteaching in simulated situation has the built-in system to enhance the self-image of student-teacher through the positive feedback of the significant others. The repeated teach and reteach performance in front of the significant others humanize the student teaching and facilitate the progress towards ideal teaching self-concept which a student teacher is keen to have.

Khatry (1973) found that there was significant relationship between selfconcept of teachers and their professional adjustment. On the contrary, Firestone (1973) could not find any relationship between student teaching effectiveness and their selfconcept. Similarly, Thompson (1973) could not find any relationship between self-image of teachers and their teaching effectiveness. The only known

Indian study on microteaching and its effect on teaching selfconcept is that of Dosajh(1975). He tried to study the change of teaching selfconcept of teacher trainees through microteaching. The trainees were asked to evaluate their teaching performance before and after at least two microteaching sessions. Their self-evaluations were compared with their supervisor's evaluations. In all cases there was significant change in the teaching selfconcept of the teacher trainees. It may be mentioned here that the number of studies in the area of teaching self-concept and microteaching are very few and the findings of the studies mentioned above are contradictory and inconclusive.

1.6.2 Studies on Microteaching and Teaching Competence

There are plenty of studies in this area of microteaching and teaching competence in India and abroad. As there is general consensus about the positive effect of microteaching on teaching competence of student teachers as well as teachers in service, the main findings are summarized below.

- (i) Microteaching is feasible in terms of time, money and development of teaching skills among student teachers (Abraham, 1974; Joshi, 1974; Passi and Shah, 1974; and Passi, 1977).
- (ii) Feedback systems are effective in the development of teaching skills (Thresiamma, 1976; Passi, 1977; and Das, Passi and Singh, 1976).
- (iii) When compared to traditional student teacher programme, microteaching develops teaching skills among student teachers to a significant extent (Chudasama, 1971; Bhattacharya, 1974; Singh, 1974; and Vaze, 1976).
- (iv) Microteaching is superior to conventional student teaching programme in the development of general teaching competence (Das et al., 1976; Joshi, 1977; Passi, 1977; Sharma, 1977).

1.7.1 Need for the Study and Statement of the Problem

From the theoretical context of the present study, (1.1) it is seen that a sound programme of professional education of teachers is essential for the qualitative improvement of education. As the prevailing picture of teacher preparation programme is not satisfactory, the need for restructuring and revitalizing it at all levels is seriously felt. From the review of literature on microteaching and teaching self-concept (1.6.1), it was found that the studies in that area were few and their findings were contradictory and inconclusive. The need for more studies on the impact of microteaching on the teaching self-concept of student-teachers was also felt. Similarly, from the studies of microteaching and teaching competence (1.6.2), it was found that microteaching was an effective and economical skill-based approach to improve teaching competence and teacher training. The development of technical skills of teaching contributed to the development of general teaching competence. But the studies on the effectiveness of various strategies of integration of teaching skills are in the embryonic stage. Hence the need for more studies for probing the effectiveness of various strategies of integration of teaching skills was also felt. Accordingly, the present study was titled "Effect of Microteaching on Teaching Self-concept and Teaching Competence of Student-teachers."

1.7.2 Objectives

The project was designed to study :

- (i) effect of microteaching on teaching self-concept of student teachers in the control group and experimental group separately; and
- (ii) effect of microteaching as well as integration of skills on teaching competence of student teachers.

1.7.3 Hypotheses

The following null hypotheses were tested:

- (i) There is no significant difference between the pretest and posttest mean teaching selfconcept scores of control

group of student-teachers.

- (ii) There is no significant difference between the pretest and post test mean teaching self-concept scores of experimental group of student-teachers.
- (iii) There is no significant difference between the mean gain scores in teaching competence of control group and experimental group of student-teachers.

In the present study, these hypotheses were tested and 0.05 was fixed as the criterion level for rejecting or retaining any of them.

1.8 Limitations of the Study

The limitations of the study were mainly four. First, only five basic teaching skills were selected for practice by all student-teachers. Second, the treatment was in the simulated situation. Third, sampling was done irrespective of the method subjects of the student-teachers. Lastly, no comparison could be made between the control group and the experimental group on the mean gain scores on teaching self-concept.

1.9 Organisation of the Research Report

There are four chapters in this research report. In the first chapter, the theoretical context of the problem, review of literature relating to microteaching and teaching self-concept, and microteaching and teaching competence, need of the study, statement of the problem, the objectives of the study, the hypotheses and the limitations of the study are presented. The second chapter is devoted to the design of the study, sampling, tools used, procedure for collection of data and statistical techniques used in the study. Description and analysis of data, testing of the hypotheses and interpretation of results are given in the third chapter. The final chapter draws together the main findings, conclusions, their implications and suggestions for further research.

METHOD AND PROCEDURE

This chapter is devoted to the description of method and procedure of the present study.

2.1 Design of the Study

In the present experimental study microteaching was treated as independent variable, and teaching self-concept and teaching competence of student-teachers were treated as dependent variables. To obtain the pretest and post-test scores Indore Teaching Competence Scale (ITCS) was used for observation and Teaching Self-concept Scale (TSCS) was used for self rating before the commencement of the treatment and at the end of it. Thus the schema was as follows :

Schematic Presentation

Pretesting:

Observation of two regular lessons in school setting by the supervisors using ITCS and administration of TSCS.

Microteaching Treatment:

After proper orientation, microteaching treatment was given in simulated situation by practising five independent core/basic teaching skills.

<u>Treatment for the Control Group (N=10)</u>	<u>Treatment for the Experimental group (N=10)</u>
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Observation of four regular lessons of 30 minutes each followed by additional feedback for 5 minutes by the supervisor. Total time for each student teacher=140 minutes. Treatment was in the simulated situation.	Orientation to integration of teaching skills, demonstration lesson by supervisor followed by discussion with special reference to the five skills and integration of those teaching skills (summative model) on the items on ITCS. Each student gave four lessons of 25 minutes duration and it was followed by immediate feedback by the supervisor for ten minutes on the basis of items on ITCS. Total time for each student teacher=140 minutes. Treatment was in the simulated situation.
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Post Testing: Actual classroom observation of two regular lessons of 30 minutes each by the supervisors using ITCS, followed by administration of TSCS.

2.2 Sampling

The sample consisted of twenty student-teachers, selected from a group of sixty willing student teachers from a training college in Shillong. They were divided into two groups, one each as control and experimental groups. The matching was done based on intelligence, sex, age, qualification and teaching experience. For equating them on intelligence the Culture Fair Intelligence Test (Scale 3) was used. In each group fifty per cent of the student-teachers were males and average age of the group was 24.85. There were two post graduates and eight graduates in each group. The average teaching experience was less than a year. The names of the participants in the project are given in Appendix C.

2.3 Tools Used

The following tools were used for the purpose noted against each:

1. Culture Fair Intelligence Test (Scale 3) was administered for selecting the matching groups.
2. Indore Teaching Competence Scale (ITCS) was used for finding out the teaching competence of student teachers in terms of integration of teaching skills (Appendix A).
3. Observation schedules and rating scales relating to the five basic skills - skills of probing questioning, stimulus variation, reinforcement, explaining and illustrating with examples (Passi, 1976), were utilized for giving feedback during microteaching treatment.
4. Teaching Self-concept Scale (TSCS) was used for self rating the teaching self-concept of student teachers as perceived by them.

Of these the first three tools are standardized instruments which have been used in investigations on microteaching. The fourth tool namely, TSCS, was constructed especially for use in the present study.

Construction of Teaching Self-concept Scale

The TSCS was developed for measuring the teaching self-concept of student-teachers as perceived by them. It was in the form of a five-point self rating scale. The procedure followed has been described in detail as follows:

The first step was the attempt to define the term 'teaching self-concept'. After referring the literature, three definitions were framed for further scrutiny by experts. On the basis of general agreement about their aptness, one of them was chosen. This definition stressed the totality of attitudes and assessments a teacher has about different aspects of one's own teaching self namely teacher personality, classroom teaching process and teaching effectiveness respectively.

The next step was identification of adjectives relevant to the person, process and product aspects of teaching selfconcept from the literature. A preliminary list of 83 adjectives relevant to person aspect, and 94 adjectives relevant to the teaching process and its effectiveness was prepared which formed Part A and Part B respectively. The services of twenty-five experts, selected from the University Department of Educational Research and Studies, NEHU, and Training colleges in Shillong, were sought to judge the suitability of each word relating to the aspect of the teaching selfconcept. They were requested to tick mark against each word in one of the appropriate columns shown as suitable, quite suitable, not suitable and undecided. Based on their judgements, the final list of forty words belonging to A part, and sixty words belonging to B part were retained in the final form of TSCS containing 100 adjectives. There are positive and negative words in the five point scale, marked 'very much like this', 'much like this', 'uncertain', 'not like this' and 'not at all like this', against each word. The respondent had to selfrate by putting a cross mark in any one of the five choices against each word in the appropriate column. Thus there were 100 adjectives in the TSCS in the form of a selfrating five-point scale. The maximum possible score on TSCS was 400 and the minimum zero. The final form of the TSCS is given in Appendix B.

Reliability

In order to find out the test-retest reliability of the scale, it was administered on a sample of 42 student teachers in a college of education in Skillong twice with an interval of four weeks. The results are given in Table 2.1.

TABLE 2.1
MEANS, STANDARD DEVIATIONS AND TEST-RETEST RELIABILITY COEFFICIENT OF THE SCORES ON FIRST AND SECOND ADMINISTRATION OF THE TEACHING SELF-CONCEPT SCALE ON STUDENT TEACHERS (N=42)

M and SD	First Administra- tion	Second Administra- tion	Test-re- test Re- liability	Level of Signifi- cance
M	312.30	314.88		
SD	37.96	33.32	0.99	0.01

The data in Table 2.1 shows that the Ms of the first and second administration were 312.30 and 314.88 with SDs 37.96 and 33.32 respectively. The 'r' between the scores of the two tests was 0.99 which was significant at 0.01 level.

The split-half reliability of the TSCS was also found by administering it on 46 student teachers. The results are presented in Table 2.2.

TABLE 2.2

MEAN, STANDARD DEVIATIONS AND SPLIT-HALF RELIABILITY COEFFICIENT BETWEEN THE ODD AND EVEN ITEMS OF THE TEACHING SELF-CONCEPT SCALE RELATING TO STUDENT TEACHERS (N=46)

Items	Mean	Standard Deviation	Split-half reliability coefficient	Level of significance
Odd items	155.37	17.98	0.99	0.01
Even items	157.20	16.13		

Table 2.2 shows that the split-half reliability coefficient between the scores on odd and even items of TSCS on a sample of 46 student teachers was 0.99. The reliability coefficient of the whole test was calculated by using the Spearman-Brown Prophecy formula. It was also 0.99.

2.4 Procedure

Step 1: Selection of the sample (caption 2.2)

Step 2: Pretesting: The twenty student teachers were observed twice during practice teaching in their classroom teaching situation for 30 minutes each in their method subjects both by the Junior Research Fellow in the project and the principal investigator after finding their interobserver reliability. The average of the observation on ITCS of each student formed the pretest teaching competence score. Before commencement of microteaching treatment, TSCS was administered for finding out the pretest teaching selfconcept scores.

Step 3: Orientation to Microteaching: Theoretical discussion about the concept of microteaching was done and the merits and demerits were explained to the respondents.

Step 4: Discussion of the Skill of Probing Questioning: The details for discussion about the skill were taken from Passi (1976). The twenty student-teachers were trained in observing and rating the components of the skill.

Step 5: Presentation of Demonstration Lesson: The model lesson for the skill of probing questioning (Passi, 1976) was presented by the principal investigator and it was discussed after distributing a copy of the model lesson.

Step 6: Planning of the Microlessons: Each student teacher prepared one microlesson in their method subject according to the lesson format of the model lesson supplied.

Step 7: Presentation of the First Microlessons: The student teachers presented their microlessons in simulated situations with peers acting as pupils. The number of peers ranged from 8 to 10. There was one peer supervisor and one supervisor to observe and give feedback to each student in an individual setting immediately after 'teach' and 'reteach'. The peer supervisor gave feedback first and it was followed by that of the supervisor. The same lesson was retaught to another set of peers followed by refeedback by peer supervisor and the supervisor. The time distribution was as follows:

Teach-6mts; Feedback-6mts; Replan-12 mts; Reteach-6 mts; Refeedback-6 mts; Total time for one microlesson=36 mts. This is termed as one microteaching cycle. There were microlessons in each cycle, although the content for teach and reteach lessons in the same cycle was the same. One microteaching cycle is given in Table 2.3.

Step 8: Presentation of Second Microlesson: Step 7 was repeated with another microlesson on a different unit from the same or different subject. Thus there were four microlessons in two cycles for each skill.

Step 9: Skill of Stimulus Variation: All student teachers repeated steps 4-8 with the skill of stimulus variation.

Step 10: Skill of Reinforcement: All student teachers repeated steps 4-8 with the skill of reinforcement.

Step 11: Skill of Explaining: The student teachers repeated steps 4-8 with the skill of explaining.

Step 12: Skill of Illustrating with Examples: The trainees repeated steps 4-8 with this skill.

TABLE 2.3
MICROTEACHING CYCLE

Micro- teachers	Teach Phase			mt	FC	SR	Reteach Phase	
	Peer Obsr.	Super- visor	Subjects (#)				Subjects(8)	Ref feedback
1.	6	S1	11-20	1	6	S1	2-5, & 7-10	6+S1
2.	7	S2	11-20	2	7	S2	1, 3-6, & 9-10	7+S2
3.	8	S1	11-20	3	8	S1	1, 2, 4, 6, 7, 9-10	8+S1
4.	9	S2	11-20	4	9	S2	1-3, 5-8 & 10	9+S2
5.	10	S1	11-20	5	10	S1	1-4, 6-9	10+S1
6.	1	S2	11-20	6	1	S2	2-5, 7-10	1+S2
7.	2	S1	11-20	7	2	S1	1, 3-6 & 8-10	2+S1
8.	3	S2	11-20	8	3	S2	1, 2, 4-7 & 9-10	3+S2
9.	4	S1	11-20	9	4	S1	1-3, 5-8 & 10	4+S1
10.	5	S2	11-20	10	5	S2	1-4 & 6-9	5+S2
11.	16	S1	1-10	11	16	S1	12-15 & 17-20	16+S1
12.	17	S2	1-10	12	17	S2	11, 13-16, 18-20	17+S2
13.	18	S1	1-10	13	18	S1	11-12, 14-17, 1 & 20	18+S1
14.	19	S2	1-10	14	19	S2	11-13, 15-18 & 20	19+S2
15.	20	S1	1-10	15	20	S1	11-14, & 16-19	20+S1
16.	11	S2	1-10	16	11	S2	12-15 & 17-20	11+S1
17.	12	S1	1-10	17	12	S1	11, 13-16 & 18-20	12+S1
18.	13	S2	1-10	18	13	S2	11-12, 14-17 & 19 & 20	13+S2
19.	14	S1	1-10	19	14	S1	11-13, 15-18 & 20	14+S1
20.	15	S2	1-10	20	15	S2	11-14 & 16-19	15+S2

S1 - Principal Investigator
S2 - Junior Research Fellow

The teaching skills were observed by the peer supervisor and supervisor with the help of corresponding observation Schedules (frequency as well as rating) given in (Passi, 1976).

The Steps 1-12 were common to the control and experimental groups. From step 13 onwards there was treatment variation between the control group and the experimental group.

Step-13: Treatment Variation:

Treatment for the control group: Each student teacher in the control group gave four regular lessons in simulation with peers acting as pupils. Each lesson was for 30 mts and it was followed by traditional feedback for 5 mts. The total time for one lesson was 35 mts and for each student in the control group for four lessons it was 140 mts.

Treatment for the Experimental Group: The experimental group was oriented to the concept and need for integration of teaching skills for 20 mts. They were given instructional material on integration of teaching skills. One demonstration lesson by the supervisor was conducted in simulated situation for 25 mts integrating the teaching skills by summative strategy with special reference to the five skills selected. This was followed by a discussion with the experimental group for 25 mts on the twenty items of ITCS and also with respect to the demonstration lesson. Each student in the experimental group prepared four lesson plans of 25 mts each. They were presented in the simulated situation and immediate feedback in detail on the basis of the items of ITCS was given for ten minutes by the supervisor. The number of peers was 4-9. There was no reteach of the lesson. For each lesson 35 minutes were spent and for four lessons of each student 140 minutes were spent.

Step-14: Post testing: The twenty student teachers gave two regular lessons in their method subjects in real classroom setting for 30 mts each. They were observed on ITCS. It was followed by administration of TSCS. The responses were scored and tabulated.

2.5 Methodological Gains

In the treatment stage some innovations were added to motivate the involvement of the trainees. Before commencement of practice of each skill, sociometric test was conducted to select the peer supervisor (microteaching partner) from the opposite sex. The chosen peer supervisor acted as the significant other to modify the behaviour of each trainee. It was found that the sociometric status of student-teachers were undergoing change based on their performance in each skill. The selection of equal number of student teachers belonging to either sex was helpful to introduce variety in the various roles. At the end of practice of each skill, the progress in performance was put on the notice board against the name of each trainee. Moreover, the best performers were given one more chance to exhibit their performance in front of all student-teachers, and the concerned demonstration lessons were taped in recognition of the best performance from the group. All student teachers got the opportunity to act as micro-teacher, peer supervisor and pupil in the ten microteaching cycles. The minimum number of microlessons observed by each trainee was 20. Since the student teachers belonged to different method subjects, their interaction in the simulated situation helped to improve their general knowledge as well.

2.6 Statistical Techniques Used

Means and standard deviations were found for the pretest, post-test and gain scores on TSCS and ITCS for control group and experimental group. Further, product moment correlation coefficient was computed between related scores. Significance of the difference between means were tested using 't' for correlated data.

The next chapter presents description and analysis of data and interpretation of results.

DESCRIPTION AND ANALYSIS OF DATA AND INTERPRETA-
TION OF RESULTS

This chapter is devoted to the analysis of data relating to the objectives of the study, testing of the hypotheses and interpretation of results. The data relating to teaching selfconcept of student teachers, testing of the hypotheses and interpretation of results are given first. The data relating to teaching competence testing of the hypothesis and interpretation of results follow them.

3.1 Data Relating to Teaching Selfconcept

3.1.1 The pretest, posttest and gain scores on TSCS of the control group of student-teachers are given in Table 3.1.

TABLE - 3.1

PRETEST, POSTTEST AND GAIN SCORES IN TEACHING SELFCONCEPT
SCALE OF THE CONTROL GROUP OF STUDENT-TEACHERS (N=10)

S1. No.	Pretest Scores	Posttest Scores	Gain Scores
01	283	289	6
02	335	344	9
03	321	363	42
04	304	361	57
05	330	379	49
06	313	334	21
07	274	314	40
08	346	390	44
09	293	298	5
10	251	337	86
M	305.00	340.90	35.90
SD	28.34	31.76	24.57

The data in Table 3.1 show that the mean post test score of the control group of student teachers was higher than their mean pretest scores. The mean post test score was 340.90 as against the mean pretest score showing thereby a gain of mean 35.90 scores.

3.1.2 Testing of the First Hypothesis

To test the hypothesis that "there is no significant difference between the pretest and post test mean teaching selfconcept scores of control group of student-teachers", significance of the difference between pretest and post test mean teaching selfconcept scores of the control group of student-teachers (N=10) was found.

TABLE - 3.2

SIGNIFICANCE OF THE DIFFERENCE BETWEEN PRETEST AND POST TEST MEAN TEACHING SELFCONCEPT SCORES OF CONTROL GROUP OF STUDENT-TEACHERS (N = 10)

Pretest	Post Test	Mean Difference	r	't'	Level of significance
M 305.00	340.90	35.90	0.67	4.61	0.01
SD 28.34	31.76				

The data in Table 3.2 shows that the mean difference 35.90 is significant beyond 0.01 level, 't' value being 4.61. So the null hypothesis was rejected. The result of this testing served to confirm the finding reported by Dasajh (1975) that microteaching treatment is helpful in enhancing the teaching selfconcept of student-teachers.

3.1.3 The pretest, post test and gain scores on teaching selfconcept of experimental group of student teachers are presented in Table 3.3.

TABLE - 3.3

PRETEST, POSTTEST AND GAIN SCORES IN TEACHING SELFCONCEPT OF THE
EXPERIMENTAL GROUP OF STUDENT-TEACHERS

S1.No.	Pretest Scores	Posttest Scores	Gain Scores
11	314	314	0
12	329	339	10
13	324	337	13
14	216	232	16
15	275	312	37
16	297	379	82
17	261	283	22
18	209	337	128
19	296	302	6
20	280	340	60
M	280.10	318.30	38.20
SD	30.45	38.06	30.44

The data in Table 3.3 show that the mean post test score of the experimental group was higher than the mean pretest score. The experimental group obtained the mean score of 318.30 as against the mean score of 280.10 obtained by their counterparts in the control group showing a clear gain of 38.2 scores in the mean.

3.1.4 Testing of the Second Hypothesis

To test the hypothesis that "there is no significant difference between pretest and post test mean teaching selfconcept scores of experimental group of student teachers (N=10)", significance of the difference between pretest and post test mean teaching selfconcept score was found. The data are presented in Table 3.4.

TABLE - 3.4

SIGNIFICANCE OF THE DIFFERENCE BETWEEN PRETEST AND POST TEST MEAN TEACHING SELF-CONCEPT SCORES OF EXPERIMENTAL GROUP OF STUDENT TEACHERS(N=10)

	Pretest	Post test	Mean difference	r	't'	Level of significance
M	290.10	310.30	38.20	0.48		
SD	39.45	38.36			3.06	0.05

The data in Table 3.4 show that the post test mean teaching self-concept scores are higher than the pretest mean teaching selfconcept scores, the mean difference being 38.20. The 't' Table (with 9 degrees of freedom) indicates that while a 't' of 3.25 is significant at 0.01 level, a 't' of 2.26 is significant at 0.05 level only. Since the 't' value in the data at hand was 3.06, the pretest post test mean teaching selfconcept difference (38.20) is significant only at 0.05 level. This is a bit difficult to explain and could perhaps be attributed to the low r (0.48) high range of scores (128) and high standard deviations. However, the null hypothesis that "there is no significant difference between pretest and post test mean teaching selfconcept scores of the experimental group of student-teachers" was rejected. The finding is significant in as much as it helps in corroborating the earlier finding of Dosajh (1975) that microteaching facilitates enhancement of the teaching selfconcept of student teachers.

3.1.5 Interpretation of Results

The data in Table 3.1 and 3.3 show the details of teaching selfconcept scores and in Tables 3.2 and 3.4 show the significance of the difference between pretest and post test mean teaching selfconcept scores of control group and experimental group of student-teachers respectively. The null hypotheses relating to teaching selfconcept were also rejected. The significance of the difference

between pretest and post test mean teaching selfconcept scores of each group confirmed the finding of Dosa (1975) that microteaching could successfully be used in enhancing the teaching selfconcept of student-teachers. It may thus be established that microteaching technique enables the student teachers in general to perceive the positive change in their teaching performance in the classroom and thereby enhancement of their teaching selfconcept.

Although the two null hypotheses were rejected, there was difference in the level of significance of the pretest post test mean difference as shown in Tables 3.2 and 3.4. In the control group the mean difference was significant at 0.01 level, whereas in the experimental group the mean difference was significant at 0.05 level only. Why did the pretest post test mean difference in teaching, selfconcept of experimental group of student teachers fail to reach 0.01 level of significance. There might be several reasons for this strange phenomenon. It is true that the experimental group of student teachers (N=10) had undergone additional treatment of integration of teaching skills in the simulated situation in comparison to the control group of student teachers (N=10) who practised microteaching with independent skills. Till the end of practice of five independent teaching skills in the simulated situation, both the experimental and control group were subjected to the same treatment and they had undergone treatment variation only after that. It is also true that no post test was conducted immediately after the microteaching treatment in independent teaching skills to find out the change in teaching selfconcept of experimental group and control group consisting of 10 student teachers each. Further, it was found useful to examine the details of the content in Tables 3.2 and 3.4 meticulously to understand the reasons for the difference in the level of significance of the pretest, post-test mean differences in the two groups. The pretest post test mean difference in teaching selfconcept of control group was 35.90 and that of experimental group 38.20 and the mean difference of 2.30 could be attributed to the superiority of the experimental group. It was found a bit helpful to scrutinise the range in gain scores of the

control and experimental groups which were 81 and 128 respectively. Similarly the standard deviations of the pretest and post test teaching selfconcept scores of the control group were 28.34 and 31.76 and that of experimental group were 39.45 and 38.36 respectively. In other words, the measures of dispersion of teaching selfconcept scores of experimental group of ten student teachers were high and low when compared with those of control group of ten student teachers. However, any generalization based on data from a very small sample of ten student teachers may be rather risky. Further studies using larger samples may help in bridging the gap. In the present study, the higher mean difference of 38.20 goes in favour of the experimental group which may be considered as the indication of the superiority of the microteaching based on integrated skills. This is a significant finding of the study.

It may be noted that one of the objectives of the study (1.7.2) was to find out the effect of microteaching separately on control group of student teachers, and experimental group of student teachers by comparing the pretest and post test mean difference within the group and the two null hypotheses were framed accordingly. It was found desirable on the part of the investigator to attempt to find the significance of the difference between the mean gain scores in teaching selfconcept of the control and experimental group of student-teachers. It was also one of the limitations of the present study (1.8). However within the limitations of the study, the two null hypotheses relating to teaching self-concept of the two groups of student-teachers were rejected and microteaching was found facilitating in enhancing the teaching self-concept of student-teachers.

3.2.0 Data Relating to Teaching Competence

3.2.1 Presentation of Data

The pretest, posttest and gain scores in teaching competence of the control group of student teachers (N=10) are shown in Table 3.5.

TABLE - 3.5

PRETEST, POST TEST AND GAIN SCORES IN TEACHING COMPETENCE OF THE
CONTROL GROUP OF STUDENT-TEACHERS (N=10)

Sl.No.	Pretest Scores	Post Test Scores	Gain Scores
01	30	56	26
02	22	50	28
03	24	50	26
04	23	63	40
05	23	63	40
06	26	65	39
07	21	53	32
08	22	56	34
09	25	61	36
10	24	76	52
M	24.00	59.30	35.30
SD	2.45	7.59	7.59

The data in Table 3.5 shows that the post test scores of all student-teachers were higher than their pretest scores and the mean gain score was 35.30.

Similarly, the pretest, post test and gain scores of the control group of student-teachers are given in Table 3.6.

TABLE - 3.6

PRETEST, POST TEST AND GAIN SCORES IN TEACHING COMPETENCE OF THE
EXPERIMENTAL GROUP OF STUDENT-TEACHERS (N=10)

Sl.No.	Pretest Scores	Post Test Scores	Gain Scores
11	20	56	36
12	23	63	40
13	24	62	38
14	23	56	33
15	24	66	42
16	24	53	29
17	28	76	48
18	25	64	39
19	25	65	40
20	28	75	46
M	24.50	63.60	39.10
SD	2.42	7.23	5.36

The data in Table 3.6 shows that the post test scores of all student-teachers are higher than the pretest scores and the mean gain teaching competence score of the experimental group is 39.10.

The data in Table 3.7 shows the mean gain scores of the experimental group of student-teachers was higher than that of the control group.

TABLE - 3.7

GAIN SCORES IN TEACHING COMPETENCE OF STUDENT-TEACHERS

Control Group (N=10)		Experimental Group (N=10)	
Sl.No.	Gainscores	Sl.No.	Gain Scores
01	26	11	36
02	28	12	40
03	26	13	38
04	40	14	33
05	40	15	42
06	39	16	29
07	32	17	48
08	34	18	39
09	36	19	40
10	52	20	46
M	35.30		39.10
SD	7.59		5.36

3.2.2 Testing of the third Hypothesis

To test the hypothesis that "there is no significant difference between the mean gain scores on teaching competence of experimental and control group of student-teachers", significance of the difference between the mean gain scores on teaching competence of experimental and control groups of student-teachers was computed. The results are presented in Table 3.8.

TABLE - 3.8

SIGNIFICANCE OF THE DIFFERENCE BETWEEN MEAN TEACHING COMPETENCE GAIN SCORES OF EXPERIMENTAL AND CONTROL GROUP OF STUDENT-TEACHERS

	Control Group	Experimental Group	r	't'	Level of significance
M	35.30	39.10	0.57	4.52	0.01
SD	7.59	5.36			

The data in Table 3.8 shows that the M and SD relating to teaching competence score of the experimental group were 39.10 and 5.36 respectively and the M and SD of the control group were 35.30 and 7.59 respectively. The higher mean was in favour of the experimental group and the mean difference of 3.80 was found significant beyond 0.01 level. The 't' value was 4.52. Thus the null hypothesis that "there is no significant difference between the mean gain scores in teaching competence of experimental and control group of student-teachers" was rejected.

Significance of the difference between pretest and post test mean teaching competence of the experimental and control group are given in Table 3.9.

TABLE - 3.9

SIGNIFICANCE OF THE DIFFERENCE BETWEEN PRETEST, AND POST TEST MEAN TEACHING COMPETENCE SCORES OF CONTROL AND EXPERIMENTAL GROUP OF STUDENT-TEACHERS

Group		Pretest	Post Test	r	't'	Level of Significance
Control group	M	24.00	59.30	0.16	14.71	0.01
	SD	2.45	7.59			
Expt.al group	M	24.50	63.60	0.84	23.14	0.01
	SD	2.42	7.23			

The data in Table 3.9 shows that the post test mean teaching competence score of the control group was higher and the mean difference of 35.30 was found significant beyond 0.01 level. The 't' value was 14.71. Similarly the post test mean teaching competence of the experimental group was found higher and the mean difference of 39.10 was found significant beyond 0.01 level. The 't' value was 23.14. The results of these tests further strengthen the rejection of the null hypothesis relating to teaching competence.

3.2.3 Interpretation of Results

In Tables 3.8 and 3.9, the data with regard to the significance of the difference between the various means are presented. In all the three cases the mean differences are significant beyond 0.01 level. The result of the significance of the difference between pre-test and post test mean teaching competence scores of the experimental and control groups confirm the findings reported by Das et al., 1976; Joshi, 1977; Lalitamma, 1977; Passi, 1977; George, 1978; and Jangira, 1980.

In the present study the student-teachers of the control group practised the skills of probing questioning, reinforcement, stimulus variation, explaining and illustrating with examples. After that without any systematic training in integration of skills, the student-teachers of the control group were able to integrate, to an extent the independent teaching skills in the natural classroom setting. At the same time the experimental group had the additional advantage of getting the training and feedback in integration of skills. This was helpful in improving the teaching competence of experimental group significantly in comparison to the control group of student-teachers. It may be concluded from this investigation that microteaching improves teaching competence of student-teachers significantly and that microteaching with training in integration of skills improve the teaching competence further. However, more studies will be required especially those connected with various methods of integration of teaching skills and their effectiveness to substantiate these findings.

FINDINGS AND CONCLUSIONS

This final chapter draws together the main findings and conclusions with their implications and suggestions for further research.

4.1 Main Findings

1. There was significant difference between the pretest and the post test mean teaching self concept scores of the control group of student-teachers.
2. There was significant difference between the pretest and the post test mean teaching selfconcept scores of the experimental group of student-teachers.
3. There was significant difference between the mean gain scores in teaching competence of the control group and the experimental group of student-teachers.

4.2 Conclusions

From the above findings one could arrive at three conclusions.

1. Microteaching facilitates enhancement of the teaching selfconcept of student-teachers.
2. Microteaching is effective in improving the teaching competence of student-teachers.
3. Microteaching treatment followed by summated strategy of integration of teaching skills is superior to micro-teaching treatment based on independent teaching skills in improving the teaching competence of student-teachers.

4.3 Implications and Suggestions

Though microteaching facilitates enhancement of the teaching selfconcept and development of teaching competence of student-teachers,

this innovative technique has not become part of the secondary or primary teacher education programme in most of the teacher training institutions in India. The bodies such as the NCTE, the MERT, Department of Education in the Universities, and SCERTs SIEs, have to make vigorous efforts for the effective diffusion and dissemination of this useful approach to teacher training programme. This may be done, besides other things by organising more workshops seminars and discussions and encouraging the production of films, taped lessons and literature on microteaching in English, Hindi and especially in regional languages. Attempts have to be made to restructure and revitalize the prevailing teacher training programme from their theory orientation to classroom reality orientation in the light of the NCTE document on teacher education.

The significance of training in basic teaching skills in simulated situations need special emphasis. If training institutions train student-teachers in simulated situations, it will be a blessing not only for the pupils of the practising schools and their teachers but also for student-teachers. The student-teachers may be initiated to actual classroom teaching practice only after ascertaining that they have acquired the minimum level of competence and confidence in a series of simulated teaching situations. For this, the teacher-educators have to work not only by involving themselves in the observation of practice sessions in simulated situations but also in the performance of demonstration lessons for independent teaching skills as well as for integrated teaching skills.

4.4 Suggestions for Further Research

Though there is empirical evidence and general agreement about the usefulness of microteaching in improving the teaching competence of preservice and in-service teachers through the practice of independent teaching skills, there is not much information about the usefulness of training in integration of teaching skills in general for improving teaching competence. Moreover, there is no empirical

evidence about the superiority of any particular strategy for integration of teaching skills. So the following studies are suggested for further research in this area.

1. Effect of various strategies of integration of teaching skills (Summative strategy, Additive strategy, Diode strategy, Subsumption strategy and No Strategy) on teaching competence of student-teachers.
2. A comparative study of the teaching competence of student-teachers trained through microteaching technique and mini-teaching.
3. A comparative study of the teaching selfconcept of student-teachers trained both in FIACS and microteaching and those trained in microteaching alone.
4. A comparison of the effectiveness of live classroom and simulated situation in integrating the teaching skills and improving teaching competence.

Research studies may be undertaken by varying the number of core skills, strategies used for integration of teaching skills, simulated situations and live classroom and using various tools like BGTC, ITCS, ATA1 and TSCS. The present study may be replicated on different samples by introducing one more post test stage, one at the end of practice of independent teaching skills, and the other after integration of teaching skills using BGTC, ITCS and TSCS.

The concept of integration of teaching skills is still in its embryonic stage. The conceptual framework, modus operandi for its training, evaluation and measurement tools and the mode of providing feedback furnish fertile ground for research, experimentation and innovation in this vital area of microteaching.

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APPENDIX - A

INDORE TEACHING COMPETENCE SCALE (ITCS)

(Developed for assessing the ability of Integration
of Skills)

Name of the student teacher: _____ Roll No. _____

Class: _____ Topic: _____

Date: _____ Time Duration: _____

Practice Lesson No.: _____

Instructions:

This scale consists of twenty statements regarding the teaching behaviours which reflects the skill of integration on the part of teacher. Each one of the statements has five possible responses such as not at all, to a little extent, etc.. The observer should rate after careful observations of the teacher and pupils behaviour

<u>Weight</u>	<u>Responses (Code)</u>	
1.	Not at all (1)	(When the said behaviour is not exhibited at all)
2.	To a little Extent (2)	(When the said behaviour is exhibited slightly)
3.	To some Extent (3)	(When the said behaviour is exhibited a little more as required)
4.	To a considerable Extent (4)	(When the said behaviour is exhibited considerably as required)
5.	To a great Extent (5)	(When the said behaviour is exhibited satisfactorily to the required extent)

You are requested to put a X under the most suitable category.

	1	2	3	4	5
1. Used learnt skills with ease.	()	()	()	()	()
2. Skills used were according to the teaching-learning situations	()	()	()	()	()
3. Changed the behaviour according to the need of the teaching-learning situation	()	()	()	()	()
4. Was more cautious about the skills than the contents	()	()	()	()	()
5. In certain situations, could not decide upon the type of the skills to be used	()	()	()	()	()
6. Took care of the needs of students while trying to integrate the skills	()	()	()	()	()
7. Selection of skills was appropriate with reference to the objectives and content of the lesson	()	()	()	()	()
8. Skills were properly sequenced in dealing with the contents	()	()	()	()	()
9. Skills were properly absorbed in the teaching style.	()	()	()	()	()
10. Skills were used in proper proportion	()	()	()	()	()
11. Components of different skills were used with proper fusion	()	()	()	()	()
12. Skills were too predominantly exhibited in the classroom	()	()	()	()	()
13. Skills inhibited the normal process of teaching	()	()	()	()	()
14. Students liked the teaching	()	()	()	()	()
15. Students were very attentive	()	()	()	()	()
16. Students were keen to respond	()	()	()	()	()
17. Students participated with interest in the classroom activities	()	()	()	()	()
18. Student participation was maximised	()	()	()	()	()
19. Students asked questions	()	()	()	()	()
20. Classroom was properly managed	()	()	()	()	()

TEACHING SELF-CONCEPT SCALE

PLEASE FILL IN THE FOLLOWING PARTICULARS

Name.....Age.....Sex.....
 College.....Date.....

Please read the directions carefully before writing on this paper

Directions

1. Please fill in the particulars mentioned above on this page.
2. There are two sets of words (Set A and Set B) containing common adjectives on pages 2 and 3 respectively. The words in Set A describe yourself as a teacher (person) and Set B describe your teaching work in the class room and its outcome (teaching process and its effectiveness). They will help us in finding out what you think of yourself.
3. The information collected through this tool, will be kept strictly confidential and will never be used to your disadvantage. This is an attempt to help you to improve yourself and to become a better teacher.
4. Please be frank and honest in your responses, because the results are likely to be helpful in your better adjustment.
5. Work quickly and do not spend too much time on any single word.
6. There is no time-limit and no right and wrong answers.
7. How to answer Set A:

Read each word and try to think how that word describes yourself as a teacher. If you think that you are very much like that put (x) in the first column. If you are much like that put your response (x) in the second column. If you are uncertain, put (x) in the third column. If you think that you are not like that, give your response in the fourth (x) column. If you feel that you are not at all like that, give the response (x) in the fifth column. Two examples are shown below.

	Very much like this	Much like this	Uncertain	Not like this	Not at all like this
	1	2	3	4	5
faithful	(x)	()	()	()	()
rude	()	()	()	()	(x)

Now See the Words in Set A

TEACHING SELF-CONCEPT

Set A (List of words relating to teacher person)

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
active	()	()	()	()	()	aloof	()	()	()	()	()
kind	()	()	()	()	()	devoted	()	()	()	()	()
polite	()	()	()	()	()	tolerant	()	()	()	()	()
inefficient	()	()	()	()	()	artistic	()	()	()	()	()
attractive	()	()	()	()	()	frank	()	()	()	()	()
healthy	()	()	()	()	()	impatient	()	()	()	()	()
intelligent	()	()	()	()	()	affectionate	()	()	()	()	()
inspiring	()	()	()	()	()	humble	()	()	()	()	()
attentive	()	()	()	()	()	optimistic	()	()	()	()	()
harsh	()	()	()	()	()	apprecia- tive	()	()	()	()	()
enthusi- stic	()	()	()	()	()	narrow- minded	()	()	()	()	()
honest	()	()	()	()	()	human	()	()	()	()	()
capable	()	()	()	()	()	resourceful	()	()	()	()	()
cheerful	()	()	()	()	()	sincere	()	()	()	()	()
careless	()	()	()	()	()	realistic	()	()	()	()	()
smart	()	()	()	()	()	nervous	()	()	()	()	()
creative	()	()	()	()	()	co-opera- tive	()	()	()	()	()
Sympathetic	()	()	()	()	()	well- adjusted	()	()	()	()	()
foolish	()	()	()	()	()	Unscrupu- lous	()	()	()	()	()
civilized	()	()	()	()	()	happy	()	()	()	()	()

HAVE YOU RESPONDED TO EVERY WORD? PLEASE CHECK

Now see next page.

HOW TO ANSWER SET B

Read each word and try to think how that word describes your teaching work in the classroom and its outcome. For indicating your response against each word follow the same procedure given above. Two examples are given below.

	Very much like this	Much like this	Uncertain	Not like this	Not at all like this
	1	2	3	4	5
helpful	(x)	()	()	()	()
irregular	()	()	()	()	(x)

Now see the following words and respond to all the words.

	1	2	3	4	5		1	2	3	4	5
appropriate	()	()	()	()	()	inadequate	()	()	()	()	()
punctual	()	()	()	()	()	natural	()	()	()	()	()
original	()	()	()	()	()	objective	()	()	()	()	()
disciplined	()	()	()	()	()	comprehensive	()	()	()	()	()
inconsistent	()	()	()	()	()	permissive	()	()	()	()	()
dynamic	()	()	()	()	()	unpleasant	()	()	()	()	()
proportionate	()	()	()	()	()	facilitative	()	()	()	()	()
democratic	()	()	()	()	()	probing	()	()	()	()	()
flexible	()	()	()	()	()	positive	()	()	()	()	()
discouraging	()	()	()	()	()	fluent	()	()	()	()	()
practical	()	()	()	()	()	ineffective	()	()	()	()	()
psychological	()	()	()	()	()	promotive	()	()	()	()	()
humorous	()	()	()	()	()	relaxed	()	()	()	()	()
Indirect	()	()	()	()	()	reasonable	()	()	()	()	()
unfair	()	()	()	()	()	informal	()	()	()	()	()
responsive	()	()	()	()	()	illustrative	()	()	()	()	()
ideal	()	()	()	()	()	reinforced	()	()	()	()	()
rewarding	()	()	()	()	()	partial	()	()	()	()	()
interactive	()	()	()	()	()	integrative	()	()	()	()	()

	1	2	3	4	5		1	2	3	4	5
unsatisfactory	()	()	()	()	()	refined	()	()	()	()	()
sequential	()	()	()	()	()	involved	()	()	()	()	()
impressive	()	()	()	()	()	stimulating	()	()	()	()	()
meaningful	()	()	()	()	()	monotonous	()	()	()	()	()
legible	()	()	()	()	()	thorough	()	()	()	()	()
irrelevant	()	()	()	()	()	simple	()	()	()	()	()
useful	()	()	()	()	()	methodical	()	()	()	()	()
warm	()	()	()	()	()	task-oriented	()	()	()	()	()
valid	()	()	()	()	()	well-organised	()	()	()	()	()
vague	()	()	()	()	()	unsuccessful	()	()	()	()	()
skilled	()	()	()	()	()	systematic	()	()	()	()	()

HAVE YOU RESPONDED TO EVERY WORD? PLEASE CHECK, THANKS.

APPENDIX - C

Names of Student Teachers Participated in the Project
Post Graduate Training College, Shillong

Females

Mrs Cecilinia Syiem
Miss Gayatri Chowdhuri
Miss Gracy. K.J.
Mrs. Jayaseeli Natarajan
Miss Mary. C. Paul
Miss Philomina Mathew
Miss Reethamma Joseph
Miss Sallymol Zacharia
Mrs. Santosh Gautam
Miss Somy Kurian

Males

Babu. E.G.
Bachu Prasad
Bhuvanendran. G.
Clement J. Momin
Devender Singh Virdi
Glen Steven Jones
John Pertin
Macke Arthur Sangma
Mohanen Nair. G.
Pravas Chandra Jena

Facilitators

Miss POONAM KAWAT

Dr. MATHEW GEORGE